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AUTHOR Seibert, Warren F.
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ABSTRACT

Sixty-four existing motion picture tests are listed and briefly described. Included are tests of perception, memory, abstract reasoning, attention span, and language. (RC)

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A COMPILATION OF EXISTING MOTION PICTURE TESTS

Warren F. Seibert
University of Michigan
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A foundation of research and of practical uses of motion picture tests has been slow to develop. The reasons are many, but among them is surely the difficulty of accessing prior work and its residue of tests. The principal sources of information about this residue are Gibson (1947); Seibert and Snow (1965); and Seibert, Reid and Snow (1967), but these reports are themselves scarce and not well arranged for the initiate. Thus, this compilation, which consists principally of test titles and brief test descriptions taken from the three cited references. The compilation might be thought of as the film tester's first crude counterpart of the French, Ekstrom, and Price Manual for Kit of Reference Tests for Cognitive Factors (1963).

Each of the cited reports details the development and study of a dozen or more motion picture ability tests. If an interested reader requires help in locating these tests, or further information about them, the writer volunteers to help. In addition, readers may obtain help from the Instructional and Research Film Unit, Purdue University, which was responsible for much of the original film test production and technical work, as well as for duplication of several older film tests of Gibson's.

In addition to the research project reports just mentioned, there are five other authors and projects of smaller scope to be identified. In the late 1960's, Ernest McDaniel, Purdue, developed several experimental film tests in a project concerned with diagnosis of perceptual disabilities in the young. Earlier, while at the University of Illinois, Charles Van Horn, now of Purdue,** developed and investigated a film adaptation of the Guilford-Zimmerman Temperament Survey. His work was supported by the U. S. Office of Education and designated as NDEA project #665, ca. 1960. Charles McIntyre, formerly of Penn State, now of the University of Illinois, has reported an earlier effort at adapting projective measures to film form. His report appears in Volume 18 (1954) of the Journal of Consulting Psychology. C.R. Carpenter, et al. (Penn State) have also reported the development of a film test of proficiency for military vehicle mechanics; (see Personnel Psychology, 1954). At last report, copies of this test were available from the Psychological Cinema Register, Penn State. Finally, the CBS television network developed and broadcast several programs-tests in the early 1960's, the "National Drivers Test", "The National Health Test", and others. Kinescope recordings of these programs are still available on loan from the network.

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* Retyped February, 1974
** Deceased, December, 1971

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EXISTING MOTION PICTURE TESTS

Successive Perception I (Gibson)* Geometric figure drawings appear behind a moving, slotted overlay mat. For each item, S must determine the shape of the figure by viewing its successive portions as revealed through the downward moving slot, then recognize the correct figure from among five alternatives presented immediately thereafter in their entirety. The slot moves over the stimulus figure once at a constant speed.

Successive Perception IIA (Gibson) A dot moves on the screen at constant speed and in a definite pattern, leaving no visible trace of its path. For each item, S's task is to visualize the pattern traced by the moving dot, then select the correct pattern from five alternatives presented afterward. Part A employs straight line patterns having only right angles or diagonals.

Successive Perception II-B (Gibson) This is Part B of the above. It differs from Part A in that the paths presented consist of curves and loops of various sizes.

Successive Perception II-C (Gibson) This is Part C of the above test. The paths used here resemble kymograph records.

Flying Orientation (Gibson, 1947) In this test, the passing terrain seen from the open bomb-bay of an airplane is simulated. The S's task is to maintain orientation relative to a starting point as the plane goes through a series of 90 degree turns. Afterwards, S must indicate the direction of the starting point. A lettered, eight point compass is projected on the screen for use in response selection.

Estimation of Velocity (Gibson) In each item, a plane silhouette moves across the screen at constant speed, then disappears behind a simulated cloud. After a variable delay, a flash in the cloud represents the explosion of an anti-aircraft shell. S's task is to decide whether the burst hit the plane or whether it occurred ahead of or behind the plane's judged position.

* Several additional film tests were developed by Gibson and co-workers during 1943-44, but not listed here because of the poor quality of the remaining prints or the apparent unavailability of any remaining prints.

Landing Judgment (Gibson) The projected picture for each item simulates the forward view from a plane's windshield during an approach to a runway. On the runway are five spots, marked A through E. S's task is to judge the letter on which the plane will first touch down.

Minimal Movement (Gibson) A dot appears in one quadrant of a cross-haired bombsight. For each item, S must determine whether the dot moves during its time on the screen and, if so, whether it moves upward, downward, to the right, or to the left.

Drift Direction (Gibson) This test is similar to the one above, except that in each item, the dot moves. The task is to determine whether the dot drifts away from a path parallel to a cross-hair and if so, the direction of drift.

Plane Formation I (Gibson) This test presents a 25-cell, 5 x 5 grid in which five airplane silhouettes are arranged in some formation. S's task is to reproduce the formation on a similarly grided answer sheet. Each exposure remains on the screen for two seconds.

Plane Formation II (Gibson) This is the second part of the above test. It differs from the above only in that exposure time is 1.5 seconds.

Plane Formation III (Gibson) This is a third part of the above test, with exposure times of one second.

Rotation I (S & S)* In each item, a geometric figure rotates rapidly in a clockwise direction on the screen. After brief exposure, the figure disappears and four alternative static figures appear, labelled A through D. S must recognize the figure seen in rotation from among the alternatives presented.

Rotation II (S & S) This test is similar to the one above, except that two figures appear simultaneously, rotating in opposite directions and superimposed. Rotation rate is also slower than in above test. The task requires identification of both figures from among four static alternatives presented afterwards.

Sequential Words (S & S) Each item presents a six-letter adjective, one letter after another. Letters appear in a fixation box at screen center. The letters of each word are thus temporally spaced, but not spatially separated. Each letter appears on the screen for 31 msecs., separated by 62 msecs. of blank screen.

Successive Comparison (S & S) In each item, a sequence of five figures is shown, with each figure appearing for two secs. Two figures in the sequence are identical. S must later indicate which figure was the one repeated. For purposes of this identification, all are shown simultaneously on the screen.

Shapes (S & S) Rectangles of varying shape but constant area are flashed on the screen. For each item, S must match the tachistoscopically presented figure with one of four subsequently presented alternatives.

Shape Changes (S & S) This test is similar to the one above, except that smoothly expanding or contracting rectangles are presented, with one frame in the continuing change being marked with a centered "X". The shape of the rectangle at "X" time must then be chosen from four static alternatives. This test and the above test use an identical set of "correct" rectangles, but use differently randomized item orders and letter alternatives.

*Seibert and Snow, 1965.

Picture Identification (S & S) Each item presents a still photograph of some common object which is partially obscured by overlaying strips. The task is like that of the Street Gestalt Completion Test (Guilford, 1959), except that exposure time is controlled (20 secs/item) and half-tone photographs are used instead of drawn silhouettes.

Successive Perception III (S & S) As in the above test, each item presents a still photograph of some common object which S must identify by writing its name. Here, different portions of the photo are obscured by a series of eight overlay mats. Each mat represents a 16 x 16 grid from which 32 cells have been removed randomly. With a mat change every 42 msecs., S never sees the complete photograph, but over one second (three complete mat change cycles), all details of the photo appear three times.

Successive Perception IV (S & S) This test is similar to the above test, except that the mat changes occur every 625 msecs. The visual effect is distinct from that of the above test. Here, the parts of the photo revealed through the mat openings appear to "dance" on the screen. S must identify the common object by writing its name.

Hidden Figures (S & S) Four complex Gottschaldt figures are shown slowly revolving, one in each quadrant of the screen, labelled A through D. Centered on the screen, a simple figure appears which can be found "hidden" within one of the revolving complex figures. S locates the hidden figure and indicates his choice.

Evolving Figures (S & S) Each item presents either four or five steps in a systematically changing geometric figure. After this sequence, either one or two further steps are represented by blank screen segments. The task is to determine the nature of the systematic changes, extrapolate over the blank step(s), then select from four alternatives the figure which correctly portrays the state of the changing figure at the time the alternatives appear on the screen.

Figure Detail Memory (S & S) A complex geometric figure is presented tachistoscopically in each item. S must recognize and select the stimulus figure from among four similar figures appearing on the screen 427 msecs. after the stimulus figure disappears.

Random Shape Memory (S & S) A collection of 16 random shapes is projected in sequence. Ss are instructed to memorize the shapes and are required to recognize each of these 16 shapes from a subsequent set of 32 sequentially presented shapes. Order of presentation in each list is randomized.

Speed Changes (S & S) In each item, a dot moves rapidly from left to right across the screen, passing through four vertical "gates," labelled A through D. The task is to determine the gate at which the dot increases or decreases its speed.

Speed Estimation (S & S) Each item presents a view of the road and passing countryside as seen from the front, side, or rear window of a moving automobile. For each item, S judges the speed of "his" automobile in miles per hour. Speeds ranging from about 15 to about 70 m.p.h. were used in filming. Item order is randomized.

Motion-Time Translation (S & S) A ruler with units designated "0" to "10" moves right and/or left across a vertical marker at screen center. The task is to translate the sequence of movements of the ruler into a motion-time graph such that the ordinate of the graph represents ruler units, the abcissa represents time, and the graphed curve represents the series of ruler units marked during the sequence of moves. S must choose the correct graph from four alternatives presented after the ruler and marker have disappeared.

Social Abstracts IA (S & S) The film depects the silent actions of five "actors" in a simple social encounter. The actors, represented on the screen by different geometric figures, and the plot are adapted from a similar film constructed and used in studies of social perception by Heider and Simmel (1944). Following the film presentation, Ss complete a printed test consisting of two parts. Variable above is Part A of this test, containing questions which require the recall and identification of characters and props and the order in which the actors entered and left the screen.

Social Abstracts IB (S & S) This is Part B of test above. It consists of true-false questions about the depicted "human" actions and interactions.

Social Abstracts IIA (S & S) A second film, constructed similarly to Social Abstracts I, involves eight different characters and a different plot; it is followed by a printed test similar in item composition to that used for Social Abstracts IA and IB.

Social Abstracts IIB (S & S) This test is to Social Abstracts IIA what Social Abstracts IB is to Social Abstracts IA.

Story Frames (S & S) Each item presents a 30 sec. live action sequence followed by a collection of four still photographs. S decides which, if any, of the four still shots are single frames extracted from the sequence shown previously. Each item is equivalent to four independent true-false questions presented simultaneously.

Story Sequences (S & S) Each item presents a 30 sec. live actions sequence, then five 5 sec. live segments in succession. S decides, for each segment, whether it appeared in the longer sequence.

Film Memory I (S & S) After viewing a short motion picture filmed at a super market checkout counter, Ss are asked to list as many as possible of the objects appearing in the film. Any descriptive statement which distinguishes the object is judged as correct. Total correct identifications yields S's score.

Film Memory II (S & S) After viewing a short motion picture filmed in the parking area of a suburban shopping center, Ss are required to describe in writing the individuals appearing in the film. Again, any descriptive statements which will serve to identify an individual are judged correct; the number of correctly identified individuals yields the score.

Film Memory III (S & S) This film depicts a sidewalk encounter between two people of college age (actor and actress). A printed test follows in which true-false questions require recall of the series of actions and interactions portrayed in the film.

Abstract Reasoning (S & S) Items in this test were patterned after those in the Differential Aptitudes Test of the same name. Each presents a sequence of four figures, followed by four labelled alternative figures. S chooses the alternative which he believes would logically follow next in the sequence.

Attention Span I (S & S) Eight letter arrays are presented tachistoscopically, with S required to reproduce letters from the array, in correct spatial arrangement, immediately afterward. Each array consists of two horizontal rows and four letters per row. The arrays are constructed by random selection of letters.

Attention Span II (S & S) Arrays like those used in Attention Span I are presented tachistoscopically. S must reproduce, in correct spatial arrangement, vowels which appear in each array.

Attention Span III (S & S) Again, arrays similar to those described above are presented tachistoscopically. Here, two arrays are presented, with 250 msecs. to 1 sec. intervening. S must determine the letter(s) (up to 3), if any, which appear in both arrays.

Short Term Visual Memory IA, IIA, and IIIA (S & S) The items of each test in the short term memory series present eight-letter arrays tachistoscopically with varying time delay between the array and the appearance of a marker designating one letter in the array. The array and marker each appear for 31 msecs., the interval between ranging from 10 msecs. to 510 msecs. S must remember the array until the marker appears. He then records only the marked letter. For each item, letters and their positions were determined randomly. The marked letter positions were balanced for each fourth (i.e., 16 items) of each test. In all, three tests were constructed, with each consisting of 64 items, eight for each of eight delay intervals. Short Term Visual Memory I used a small bar marker which appeared just above or below a letter position in the array, Short Term Visual Memory II used a circle marker surrounding the letter position, and Short Term Visual Memory III presented a bar marker simultaneously with the array and a circle marker at variable delay intervals. These stimulus conditions and the method of partial report are closely related to those used by Averbach and Coriell (1961). Parts IA, IIA, and IIIA represent the condition in which the variable marker preceded the array by 52 msecs.

Short Term Visual Memory IB, IIB, and IIIB (S & S) Marker delay = 10 msecs.

Short Term Visual Memory IC, IIC, and IIIC (S & S) Marker delay = 94 msecs.

Short Term Visual Memory ID, IID, and IIID (S & S) Marker delay = 177 msecs.

Short Term Visual Memory IE, IIE, and IIIE (S & S) Marker delay = 260 msecs.

Short Term Visual Memory IF, IIF, and IIIF (S & S) Marker delay = 344 msecs.

Short Term Visual Memory IG, IIG, and IIIG (S & S) Marker delay = 428 msecs.

Short Term Visual Memory IH, IIH, and IIIH (S & S) Marker delay = 510 msecs.

@Auditory Word Span (S. R., & S)* In each item of this auditory test the examinee hears a list of common words, three to six letters in length. The length of the list varies from six to thirteen words in length. After each list is read the examinee is required to write the entire list on the answer sheet, in proper order. The test consists of sixteen items.

@Paired Words Total (S. R. & S) In each of the two parts of this auditory test a list of 15 pairs of common words is read twice by the examiner, with the order of the pairs changed the second time they are read. After hearing the list of pairs, the examinee hears a third, test list consisting of first words from each of the previously heard pairs. S completes the pair by writing the second, or associated, word.

@Designates an audio, rather than a motion picture test.
*Seibert, Reid, and Snow, 1967.

@Phrase Completion (S, R, & S) In each of the four parts of this auditory test the examinee hears a list of ten unrelated phrases. After the ten phrases are read the Ss look at these phrases on their answer sheets and fill in a missing word in each phrase.

@Sentence Completion (S, R, & S) In each of the four parts of this auditory test a list of five, unrelated sentences is read. These same sentences appear on the examinee's answer sheet, but with two words missing from each one. The examinee is required to fill in the missing words.

@Idea Sequence (Part I) (S,R, & S) In each of the two parts of this auditory test the examinee hears a brief reading. After the reading is completed, he turns to his answer sheet and is presented with ten statements or ideas which have been taken from the reading. He is required to indicate the order in which the ten ideas appeared.

@Idea Sequence (Part 2) (S,R, & S) See the above test.

@Sentence Reproduction (S,R, & S) Each of the sixteen items of this auditory test consists of a sentence. After each sentence is read, the examinee is required to write it on his answer sheet.

Short Term Object Memory I (S,R, & S) A film test in which Ss are first shown a stimulus pool of nine common object photographs (camera, binoculars, boat, car, shoe, pistol, drill, chair, and pipe). In each item, six of the photographs are presented in a 2 by 3 array, appearing either for 4, 8, or 12 film frames. The 54 items, total, include 18 items at each of the three exposure durations and thus, three subtests. After the array disappears, there are two blank frames and then an empty rectangular marker appears in one of the six array positions and remains on the screen for ten frames. The Ss are to select from answer sheets the name of the object which appeared in the marked position. Twelve seconds are allotted for responding to each item.

Short Term Object Memory II (S,R, & S) A film test very similar to STOM I, above. It includes 54 items, the same stimulus pool of nine common object photographs, and three subtests analogous to those of STOM I. However, in each item of this test, after the array disappears, there are two blank frames, then one of the photographs appears again, centered on the screen. The Ss mark on answer sheets the position occupied by the pictured object.

Short Term Color Memory I (S,R, & S) A film test with format similar to that of STOM I, above. The Ss are first shown a stimulus pool of nine hexagonal color samples (red, green, purple, yellow, orange, brown, gray, pink, and blue.) After these are presented and named, the 54 items of the test then present the color chips in a 2 by 3 array, holding the array on the screen for a duration of 4, 8, or 12 frames. There are, thus, three 18 item subtests, each with a different stimulus exposure duration. In each item, after the array disappears, there are two blank film frames, then an empty hexagonal marker appears in one of the array positions. The Ss are to indicate the color which occupied the marked array position.

Short Term Color Memory II (S,R, & S) This film test is similar to STOM I, above. It differs in that its items designate the color to be remembered and identified by following each array with a horizontal colored bar in screen center. The Ss are then to indicate the position occupied by the color, rather than the color occupying a designated position, as in STOM I.

Film Sequence Memory (A) (S,R, & S) This film test presents a brief live action "story" in which a single actor executes a sequence of activities, with several actions at least approximately repeated. Afterwards, each of the five test items presents four still pictures taken from the film. The Ss must then indicate the order in which these appeared within the story. One point is given for each picture placed in the correct position in the story sequence.

Film Sequence Memory (B) (S,R, & S) This is the same as Film Sequence Memory (A), above, except that scoring procedures are altered. The scoring here consists of assigning points that correspond to the magnitude of the rank order correlation between the correct sequence or order of still pictures and that given by the S.

Picture Memory Span (S,R, & S) This film test employs a pool of 22 common object photographs and in each item it presents four to ten of these pictures, as in customary memory span tests. Each photograph is on the screen for one-half second, with one-sixth second between adjacent photographs. Response time is adjusted in accordance with the number of photographs in the series. The Ss are to record in correct order the names of the objects in each series.

Digit Span-Visual (S,R, & S) Each of the 24 items in this projected slide test presents a series of digits; the series may range from four to thirteen digits. Each slide (thus, each digit) appears for one second, with one-half second between. At the close of each series, a slide says "Begin". The Ss are given 12 seconds to respond to each item and must record the digits in the order presented. The test is adapted from the Digit Span test described by French, Ekstrom, and Price (1963, p. 27).